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Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet	1	of	2

Complete if Known	
Application Number	10/693,315-Conf. #1495
Filing Date	October 24, 2003
First Named Inventor	Takao ABE
Art Unit	1624
Examiner Name	M. L. Berch
Attorney Docket Number	AM100905 (36119.227-US1)

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	AA*	US-4,977,256	12-11-1990	Aoyagi et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
	BA	WO-96/04285-A1	02-15-1996	Synphar Laboratories, Inc.		

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [2] Applicant's unique citation designation number (optional). [3] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [4] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [5] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [6] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
	CA	Abe, T. et al., "A Novel, Mild, and Facile Method to Prepare 6-Methylidene Penem Derivatives," J. Org. Chem. 2004, 69, 5850-5860.	
	CB	ABIKO, et al., "Concerning the Boron Mediated Aldol Reaction of Carboxylic Esters", J. Org. Chem., 61:2590-2591 (1996)	
	CC	BENNETT, et al., "6-(Substituted Methylene)Penems, Potent Broad Spectrum Inhibitors of Bacterial β-Lactamase: III. Structure-Activity Relationships of the 5-Membered Heterocyclic Derivatives", Journal of Antibiotics, 44(3):331-337 (1991)	
	CD	Bennett, I. et al., "6-(Substituted Methylene)Penems, Potent Broad Spectrum Inhibitors of Bacterial β-Lactamase, V- Chiral 1,2,3-Triazlyl Derivatives," The Journal of Antibiotics, Vol. 44, No. 9, 969-978.	
	CE	BOUFFARD, et al., "A New Approach to the Diastereoselective Synthesis of Aldols: Introduction of the 6α-(*1R*-Hydroxyethyl) Side Chain of the Carbapenem and Penem Antiobiotics", Tetrahedron Letters, 26(51):6285-6288 (1985)	
	CF	BOUFFARD, et al., "Thienamycin Total Synthesis. 1. Synthesis of Azetidinone Percursors of (±)-Thienamycin and Its Stereoisomers", J. Org. Chem., 45:1130-1135 (1980)	
	CG	Bouffard, F.A. et al., "Thienamycin Total Synthesis: Stereocontrolled Introduction of the Hydroethyl Side Chain," J. Org. Chem. 1981, 46, 2208-2212.	
	CH	BUSH, et al., "A Functional Classification Scheme for β-Lactamases and Its Correlation with Molecular Structure", Antimicrob. Agents Chemother., 39(6):1211-1233 (1995)	
	CI	DININNO, et al., "Aldol Condensations of Regiospecific Penicillanate and Cephalosporanate Enolates, Hydroxyethylation at C-6 and C-7", J. Org. Chem., 42(18):2960-2965 (1977)	
	CJ	Hayashi, K. et al., "Variable Stereoselectivity in the Imine Aldol Reactions Employing $MgBr_2$ and Et_3N," Synlett, December 1996, 1203-1205.	
	CK	Hejnar, P. et al., "Double-Disk Test Positivity in Stenotrophomonas maltophilia Clinical Strains," Folia Microbiol, 49(1), 71-74 (2004).	
	CL	INNIS, "Human Milk and Formula Fatty Acids", Journal of Pediatrics, 120(4,Pt 2):S56-S59 (1992)	

Examiner Signature		Date Considered	

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /MB/ (11/28/2007)

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Sheet 2 of 2

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First Named Inventor	Takao ABE
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Examiner Name	M. L. Berch
Attorney Docket Number	AM100905 (36119.227-US1)

	CM	International Search Report and Writen Opinion issued April 11, 2007, in PCT/US2006/028883	
	CN	Masamune, S. et al., "Aldol Strategy: Coordination of Lithium Cation with an Alkoxy Substituent," J. Am. Chem. Soc. 1982, 104, 5526-5528.	
	CO	MANSOUR, "Hunig's Base-Magnesium Chloride Mediated Carbon Alkylation and Oxygen Acylation of Benzoylacetonitrile", Tetrahedron Letters, 29(28):3437-3440 (1988)	
	CP	MANSOUR, et al., "N-Protected α-Aminomethylketone Analogues of C-Terminal p-Nitrobenzyl-3-Ketoesters of N-Protected Amino Acids", Synthetic Communications, 19(3&4):667-672 (1989)	
	CQ	Meyers, A.I. et al., " Stereoselective Synthesis of threo-3-Hydroxy-2-methylcarboxylic Acids Using Alkoxyalkyl Propionates," Journal of the American Chemical Society, 101:9, April 25, 1979.	
	CR	Office Action that issued from the European Patent Office on June 20, 2006 in EP 03 733 911.6-1211	
	CS	OSBORNE, et al., "Synthesis of (5R)-(Z)-6-(1-Methyl-1,2,3-triazol-4-ylmethylene-penem-3-carboxylic Acid, a Potent Broad Spectrum β-Lactamase Inhibitor, from 6-Aminopenicillanic Acid", J. Chem. Soc. Perkin Trans., pp. 179-188 (1994)	
	CT	Pfaendler, H.R. et al., "The Penems, a New Class of β-Lactam Antibiotics. 5. Total Synthesis of Racemic 6-α-Hydroxyethylpenemcarboxylic Acids," 1980, American Chemical Society, 2039.	
	CU	RATHKE, et al., "Procedures for the Acylationof Diethyl Malonate and Ethyl Acetoacetate with Acid Chlorides Using Tertiary Amine Bases and Magnesium Chloride", J. Org. Chem., 50:2622-2624 (1985)	
	CV	Sano, S. et al., "Lewis Acid- and Cationic Lithium-Mediated Diastereoselective Aldol-Type Reaction Based on a Double Chiral Recognition Manner for the Asymmetric Synthesis of α-Substituted Serines," Tetrahedron Letters, Vol. 36, No. 23, pp. 4101-4104, 1995.	
	CW	Sugasawa, T. et al., "Aminohaloborane in Organic Synthesis. IV. A Directed Aldol Condensation Using Vinylaminodichloroborane," Synthetic Communications, 9(6), 515-528 (1979).	
	CX	Sugasawa, T. et al., "Aminohaloborane in Organic Synthesis. IV. A Simple Enantioselective Aldol Synthesis," Tetrahedron Letters No. 16, pp. 1423-1426. 1979.	
	CY	Takazawa, O. et al., "New Crossed Aldol Reaction. Reaction of Enamines with Aldehydes Activated by Lewis Acids," Bull. Chem. Soc. Jpn., 58, 2427-2428 (1985).	
	CZ	Bulychev, A. et al., "Penem BRL 42715: An Effective Inactivator for β-Lactamases," J. Am. Chem. Soc. 1995, 117, 4797-4801.	
	CA1	Kumagai, T. et al., "Mild and Chemoselective Cleavage of *p*-Nitrobenzyl Esters and *p*-Nitrobenzyloxycarbonyl Amines with Zinc Dust," Heterocycles, Vol. 36, No. 8, 1993.	
	CB1	Ertas, V. et al., "Selective Preparation of *l*- or *u*- Aldols from Ethyl Trityl Ketone and Aromatic Aldehydes through Lithium and Aluminium Enolates, Respectively," Helvetica Chimica Acta – Vol. 68 (1985).	
	CC1	Cervello, J. et al., "Cobalt Mediated Regioselective Alkylation of Methyl 3,5-Dioxohexanoate. Preparation of 5-Alkyl Derivatives of 4-Hydroxy-6-methyl-2-pyrone," J. Chem. Soc., Chem. Commun., 1987.	

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